Royalty Formulas – Conventional Oil

R% = Price Component ($r_{p)}$ + Quantity Component (r_q)
R% has a minimum of 0% and a maximum of 50%

Price Component (r_p)	
Price ($/m^3)	**r_p**
PP<= Sp_2	((PP-Sp_1)*0.0006)*100
Sp_2<PP<=Sp_3	((PP-Sp_2)*0.0010+0.036)*100
PP>Sp_3	((PP-Sp_3)*0.0005+0.186)*100
Maximum	35%
PP is the par price for the month in $/m^3	
Note: r_p can be negative	

Quantity Component (r_q)	
Quantity (m^3/month)	**r_q**
Q<=Sq_1	((Q-Sq_1)*0.0026)*100
Sq_1<Q<=Sq_2	((Q-Sq_1)*0.0010)*100
Sq_2<Q<=Sq_3	(((Q-Sq_2)*0.0007)+0.09)*100
Q>Sq_3	(((Q-Sq_3)*0.0003)+0.16)*100
Maximum	30%
Q is the monthly production in m^3	
Note: r_q can be negative	

Royalty Parameters		
	Price ($/m^3)	**% Change (%/$/m^3)**
Sp_1	190	0.06%
Sp_2	250	0.10%
Sp_3	400	0.05%
	Quantity (m^3/month)	**% Change (%/m^3/month)**
Sq_1	106.4	0.26%, 0.10%
Sq_2	197.6	0.07%
Sq_3	304.0	0.03%

Examples

Price ($/m^3)	**Quantity (m^3/month)**	**r_p**	**r_q**	**R%**
200	50	0.600%	-14.664%	0.00%
200	200	0.600%	9.168%	9.768%
300	50	8.600%	-14.664%	0.00%
300	200	8.600%	9.168%	17.768%
400	50	18.600%	-14.664%	3.936%
400	200	18.600%	9.168%	27.768%
500	50	23.600%	-14.664%	8.936%
500	200	23.600%	9.168%	32.768%